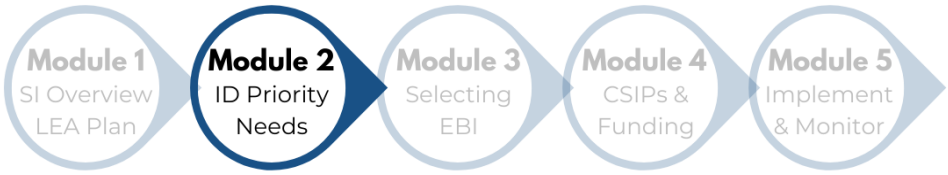
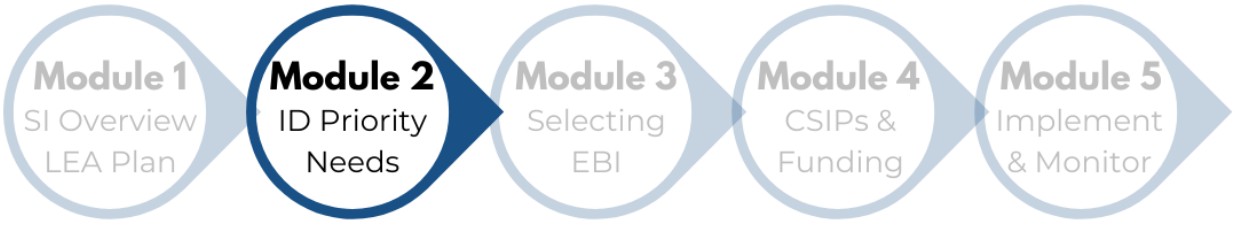


Module 2: Needs Assessment and Root Cause Analysis

Objective:

To identify between three and five high-priority needs for improving student outcomes and their respective root causes.



Module 2 Contents:

Module 2 Deliverables:

2.a Results of Needs Assessment and Prioritization
2.b Results of Root Cause Analyses

Module 2 Appendices

i) Examining Data Protocol
ii) Prioritizing Needs Protocol
iii) Conducting Root Cause Analyses Protocol

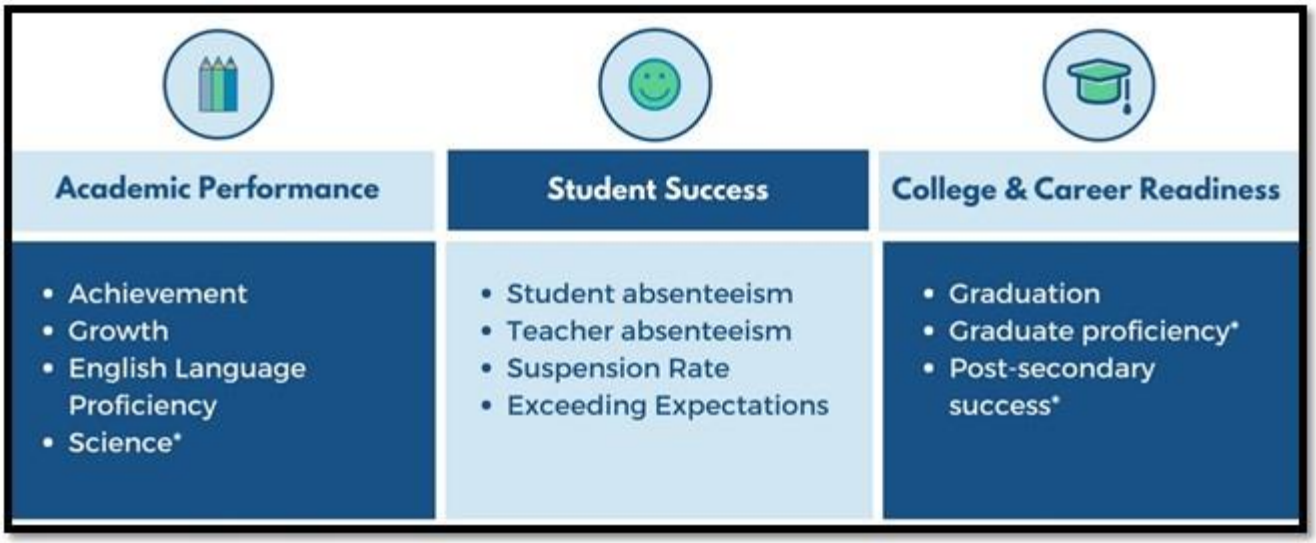
2.1 Conducting A Needs Assessment

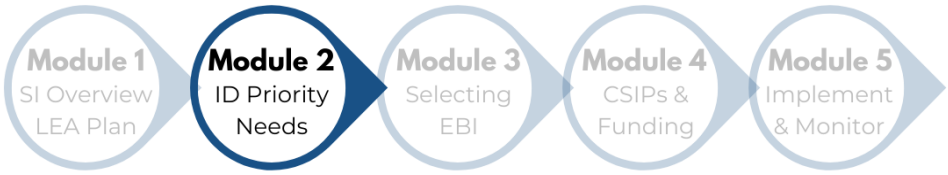
ESSA requires that all LEAs with CSI schools conduct school-level needs assessment(s) to determine the possible causes of low performance and identify strategies for remediation. The selected strategies should be those which are likely to yield improved student outcomes in accordance with school improvement goals. The ultimate purpose of a needs assessment is to develop an informed, accurate understanding of the current conditions of teaching and learning, which should be viewed through the lens of the Rhode Island Framework for Continuous School Improvement, all of which contribute to the educational effectiveness and student success in an identified school and LEA. The needs assessment will also allow all stakeholders to norm on their understanding of a school's strengths and areas for improvement through their utilization of an objective, data-driven, process.

A quality needs assessment will provide opportunities for users to triangulate these multiple sources of data and organize them to develop a coherent, robust understanding of a school's current conditions.

RIDE believes schools and LEAs will be well equipped to identify their greatest needs, their root causes, and strategies most likely to improve the conditions of teaching and learning at schools when the following are true:

- At each stage in the process, a well-rounded team of stakeholders (LEA, school educators and community advisory boards) are engaged as the Collaborative Team
- The Collaborative Team is presented with sufficient data on a broad range of research-validated indicators of school improvement
- The Collaborative Team leverages the Rhode Island Framework for Comprehensive School Improvement as an organizing theory for comprehensive improvement, the RIDE-issued report cards including but not limited to accountability data and Survey Works data, as well as the tools and protocols provided in the appendices of Module 2.



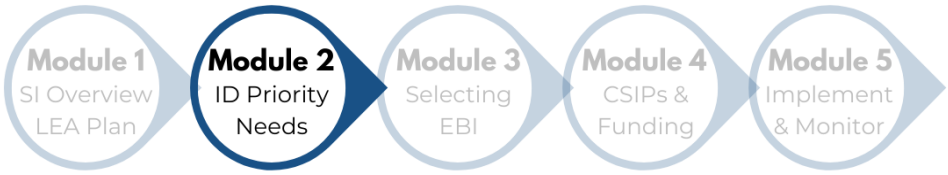


RIDE has developed a protocol for looking at data that is included in Appendix 1 of this module. This protocol focuses heavily on the elements included in the RIDE Report Card for school and district accountability, as these are validated metrics against which all schools are evaluated statewide.

RIDE has incorporated a specific protocol which uses the elements in the Report Card and SurveyWorks in order to:

- Reduce the burden on LEAs to select needs assessments and gather their own data
- Focus the Collaborative Team's attention on the highest-stakes data
- Allow users to ground all hypotheses in valid data, rather than gut instincts or preconceptions
- Build shared understanding and consensus about programmatic and student needs
- Increase Report Card literacy across multiple stakeholders

RIDE acknowledges other data, such as perception data, instructional data and other locally generated data sources are useful and necessary to consider, and LEAs are encouraged to supplement all protocols with additional data as they deem necessary. However, ultimately schools will be setting goals, many of which must align to the elements of the accountability system in order to lead to improvement within the accountability system. Therefore, RIDE's protocol requires schools consider these elements, at minimum.



2.2 Prioritization of Needs

After a first look at the data using the Protocol in Module 2 Appendix I, the Collaborative Team will want to begin prioritizing. The ultimate goal of this prioritization will be to identify three to five high priority needs which will be analyzed for root causes in Module 2.3.

Collaborative Teams will revisit their data and notes in order to determine 1) the extent to which the data suggest performance on that indicator is strong and 2) the extent to which the statement is important to student performance in the identified school's context according to the judgement of those conducting the needs assessment. As the Collaborative Team prioritizes, they should record their thinking in Module 2 Appendix ii –*Prioritizing Needs Worksheet.*

Judging performance on an indicator as strong means there is data available that demonstrates the activity or outcome described by the indicator is at levels that are at or above satisfactory to the Collaborative Team at the identified school and/or its LEA. Conversely, weak performance on an indicator means the available data suggests performance is below what the Collaborative Team would deem acceptable.

Judgements of Importance in the Context of Accountability

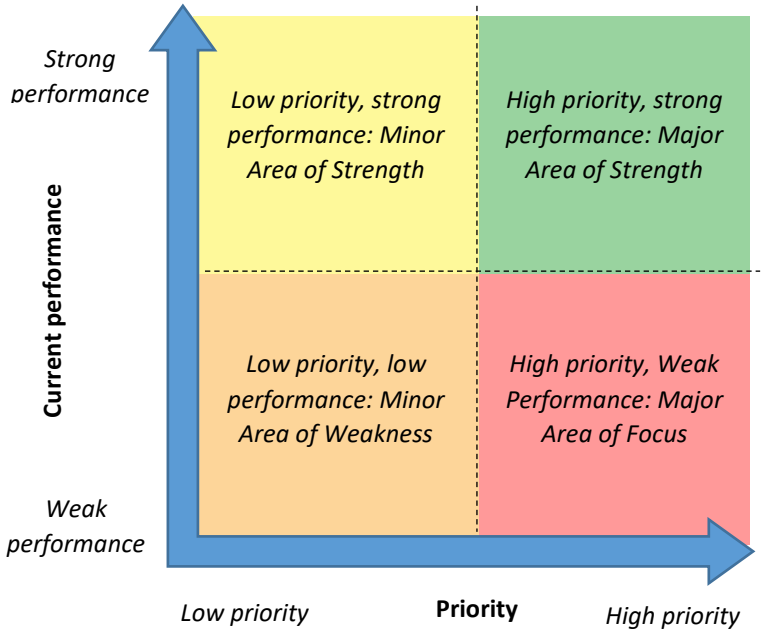
When the Collaborative Team is formulating judgements and setting priorities for school improvement, one critical consideration must be the schools performance on RI's statewide system of accountability. Ultimately the purpose of a Comprehensive School Improvement Plan is to improve the conditions of teaching and learning at a school, which should result in the school exiting identification. Therefore, priorities identified by the Collaborative Team must include, but need not be limited to improving metrics on the accountability system that will result in exit from CSI status.

The Collaborative Team will need to calibrate as they formulate collective judgements of performance and importance. Module 2 Appendix ii provides a protocol about prioritizing needs which will help the team calibrate along these two dimensions.

In order to determine the relative strength of performance of an indicator, contextual data may be helpful to consider. For example, is the school's performance above or below the LEA average? The state average? Peer schools? A stated goal or benchmark in a national initiative, statewide priority, or local strategic plan? A certain threshold in an accountability system? A college and career readiness standard? All of these sources of contextual data will be useful for a team when rendering judgements of the strength of performance on an indicator and whenever possible should inform the Collaborative Team's judgments. When performance on an indicator is judged to be weak it means there are measurable changes that must be made at the LEA and/or school in order to strengthen performance. In a similar fashion, educators and CABs will be asked to use data to make judgements of prioritization.

Although all indicators provided in this sample needs assessment are vetted by research to be indicators of successful schools, context varies widely by LEA and even by school, therefore it falls to the Collaborative Teams' judgement of the data and specific local context to determine which indicators seem most likely to be related to large impacts on outcomes.

Statements judged to be high **priority** should correspond to **relatively large impacts** (either positive or negative), whereas statements that are judged to be **low priority** should correspond to **relatively small impacts** (either positive or negative). The term here "relatively" is used because for each school and LEA, the size of an impact will need to be determined relative to other LEA factors. If math achievement is low across an entire school and the relative impact of improving math achievement is large on the accountability system, then this should be deemed as higher priority than a gap in ELA that might be specific to a particular classroom or grade-level. These choices are nuanced and difficult but using the data to ground these judgements will help them remain as accurate and impactful as possible. Finally, after using the data to formulate these joint-judgements, Collaborative Teams will be left with four categories of indicators:

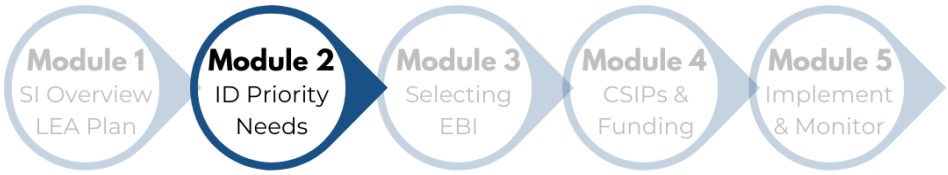


1. The first category of indicators are those that are **high priority and strong performance**. These are the indicators in which you are already strong and are having a large positive impact on your student outcomes. You'll want to make sure school improvement efforts preserve and expand these positive outcomes for all students.

2. The second category of indicators are those that are **low priority and strong performance**. These are often initiatives that are easily accomplished but have little measurable effect on student learning or other desired outcomes.

3. The third, category of indicators are those that are judged to be **low priority and weak performance**. These are areas of improvement, but ones that even if they were improved, likely wouldn't move the needle appreciably. Don't let either of these categories of indicators distract you from areas with greater potential impact.

4. Finally, the indicators that are **high priority and weak performance** are the major levers for improving outcomes for students. These priority indicators are where Collaborative Teams will want to focus most of their efforts for root-cause analysis so that you can effectively adopt strategies and interventions and commensurately improve related student outcomes.



2.3 Conducting a Root Cause Analysis

Conducting root cause analysis (RCA) in education is analogous to diagnosis of a medical concern – unless a problem is correctly identified it won't receive the appropriate treatment, and too often, valuable resources are wasted treating symptoms without ever addressing the underlying cause of the problem.

Because no needs assessment is perfect and we can never consider every single piece of data, any root cause analyses in education, as often is the case in medicine, will generate best guesses. However, when these guesses are informed by thoughtful analysis of multiple sources of data and bolstered by judgments of education professionals and community members who understand students and school communities, they can render a much stronger "guess" which can be thought of as a well-informed hypothesis.

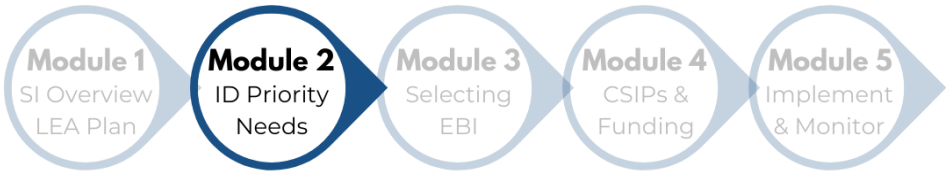
Having strong hypotheses about the causes of low performance in areas of high importance will lead naturally to the identification and selection of evidence-based improvement strategies that address these causes of underperformance, and will form the basis of an application for School Improvement Funding (1003 federal grants) as well as a strong school improvement plan.

Before hypothesizing root causes, it is important to understand exactly what is meant in this context. In *The School Leader's Guide to Root Cause Analysis: Using Data to Dissolve Problems* Paul Preuss defines a root cause as the following:

> ***"The deepest underlying cause, or causes, of positive or negative symptoms within any process that, if dissolved, would result in elimination, or substantial reduction, of the symptom."***
> *- Paul Preuss, The School Leader's Guide to Root cause Analysis*

An effective root cause analysis is a highly complex and mentally demanding activity, particularly for large group of people, however, if done properly, it will identify the areas of greatest need and highest yield for better results. Since this process is critical and challenging, it is recommended that a school only conduct root cause analyses for the 3-5 highest priority needs as identified by the needs assessment. In order to do this:

1. Only those indicators identified as high priority and weak performance (aka priority indicators).
2. Any priority indicators that can be logically grouped as closely related should be combined.
3. If more than five priority indicators remain, the group should collectively rank order the remaining priority indicators. One way this can be achieved in a large group is allowing each group member to indicate their top three priority indicators and ranking them based on the number of selections each priority indicator received.



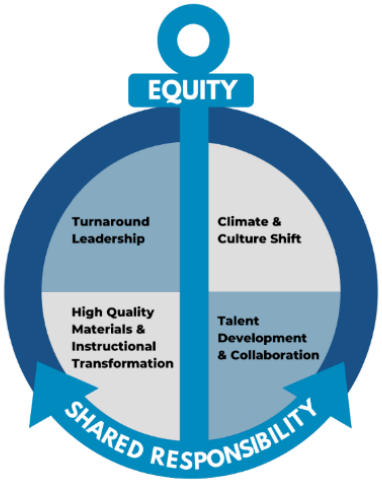
Once the collaborative team has identified their 3-5 highest priority indicators, they should be rephrased as problem statements. Problem statements should be precise and measurable and truly speak to the major problem a school wants to understand and address. While this sounds fairly straightforward, problem statements often are ill-formed and do not lend themselves to meaningful analysis.

Once priority indicators are reformulated into problem statements, the following process should be followed for each. It is recommended that the following process be conducted in mixed-role groups of no more than 6, so a sufficiently large group may want to divide itself into smaller groups working in parallel, each taking a subset of the priority indicators to perform the root cause analysis.

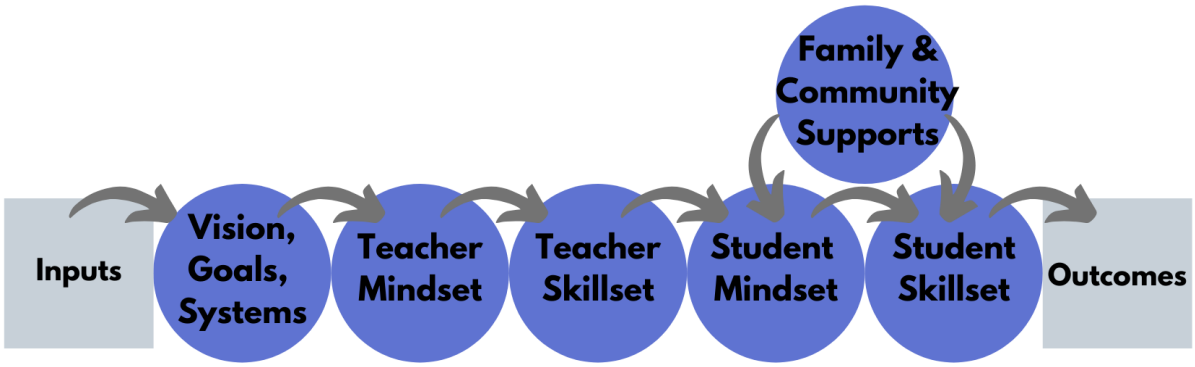
An Example Problem Statement

Imagine a collaborative team has determined that a priority indicator is performance on math state assessments by Multi-lingual learners (MLLs). They would begin with the problem statement "MLL performance in math on summative and formative assessments is low." They would not want to say "Math performance is low" (not specific enough) or "Our MLLs do not know math" (not quantifiable). Getting the problem statement right ensures you will conduct the most comprehensive root cause analysis and identify the largest contributing root

The Conducting Root Cause Analyses Protocol included in Module 2 Appendix iii requires the Collaborative Team to consider for each problem statement as many causes as possible in the context of the Framework for Continuous School Improvement. Once many possible root causes have been identified, it then prompts participants to consider the possible sources of data which might substantiate or disprove each possible root cause. A useful framework for identifying possible sources of data within the root cause structure is the following logic model for educational change, below.



Ultimately the Collaborative Team will need to decide where in this chain of events they believe the root cause of low performance lies. In order to do this, the protocol in Appendix iii encourages them to bring in additional data from relevant elements SurveyWorks as well as local supplementary data. After completing the Root Cause Analysis Protocol in Appendix iii, schools will have three to five priority needs with well-analyzed root causes and will be ready to begin looking for evidence-based interventions to address these causes in Module 3.



Aligning the RI Framework for to the Logic Model for Educational Change

The logic model provided in this module is aligned to the RI Framework for School Improvement. Just as in the Framework itself, there is much overlap among and between domains and elements of the logic model, but loosely the components align as follows:

Turnaround Leadership: This domain aligns to the "Inputs;" "Vision, Goals, Systems;" and "Teacher Mindset" elements of the logic model.

Talent Development & Collaboration: This domain aligns to the "Teacher Mindset," and "Teacher Skillset" elements.

High Quality Materials and Instructional Transformation: This domain aligns to the "Teacher Skillset," "Student Mindset," and "Student Skillset" elements, as well as being heavily influenced by "Inputs" in the case of high quality materials.

Climate & Culture Shift: This domain encompasses every element of the logic model as climate is pervasive throughout all levels of education change.